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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/349,198	07/07/1999	CHRISTOPHER F. PARKER	22074661-255	6293

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DALLAS, TX 75201-2980

EXAMINER

TRAMMELL, JAMES P

ART UNIT	PAPER NUMBER
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3694

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	12/21/2006	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

09/349,198

Applicant(s)

CHRISTOPHER PARKER

Examiner

Ella Colbert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 12-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 6 is/are allowed.
- 6) ☒ Claim(s) 1-4 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. Claims 1-6 and 12-20 are pending. Claims 5 and 6 have been amended in this communication filed 09/12/05 entered as Response to Election/Restriction.
2. The 35 U.S.C 112, second paragraph rejection for claims 1,5, and 6 has been overcome by Applicant's convincing arguments and amendments and is hereby withdrawn.
3. The Election/Restriction requirement is hereby withdrawn in view of Applicant's convincing arguments.

Drawings

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "202" has been used to designate both "Backup Copy System" and "Tablespace Backup Storage"; reference character "204" has been used to designate both "Log Records" and "Log Record Storage System"; "210" has been used to designate both "Log Record Sorter System" and "Log Records Sorter System"; 218" has been used to designate both "Table Row Inserter" and "Table Row Inserter System"; and reference character "324" has been used to designate both "update table with new table data page records" and "update table with new table data pages". This is inconsistent with the reference characters in Applicant's Specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the

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sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The abstract of the disclosure is objected to because the reference characters in the drawings are not in agreement with the reference elements in Applicant's Specification. Applicant is respectfully requested to review the Specification and to place the reference elements in the Specification and drawing reference elements in agreement. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-4 and 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over (US 5,721,915) Sockut et al, hereafter Sockut in view of (US 5,517,641) Barry et al, hereinafter Barry.

With respect to claim 1, Sockut teaches, a database table recovery system (col. 1, lines 20-33 and col. 9, lines 19-22) the database table recovery system operable to retrieve a backup copy of a tablespace and to apply updates to the backup copy from a

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log associated with a database table, and to restore the database table associated with the tablespace from the updated backup copy without recovering the tablespace (col. 2, lines 4-11, col. 3, lines 61-67, and col. 4, lines 1-17).

Sockut fails to teach, a tablespace access system coupled to the table recovery system, the tablespace access system is operable to restrict access to the tablespace to read-only access. Barry teaches, a tablespace access system coupled to the table recovery system, the tablespace access system is operable to restrict access to the tablespace to read-only access (col. 2, lines 65-67 and col. 3, lines 1-12 and lines 34-40). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a tablespace access system coupled to the table recovery system, the tablespace access system is operable to restrict access to the tablespace to read-only access and in view of Sockut's teachings in col. 8, lines 57-67, col. 9, lines 1-18 and lines 37-44 of database performance and to modify in Sockut because such a modification would allow Sockut's system to have independent recovery of the data and indexes and a significant decrease in elapsed time since the log file updates are done for all objects in the database through the log file.

With respect to claim 2, Sockut teaches, the table recovery system further comprises a log record sorter system operable to sort log records from the log (col. 7, lines 25-36).

With respect to claim 3, Sockut teaches, a data page updater system coupled to the log record sorter system operable to apply log record updates to the backup copy (col. 7, lines 37-62).

With respect to claim 4, Sockut teaches, a data page scanner system coupled to the data page updater system, the data page scanner system operable to locate

records associated with the database table in at least one data page (col. 11, lines 41-67 and col. 12, lines 1-11).

With respect to claim 12, Socket teaches, receiving a backup copy of the tablespace having one or more database tables (col. 9, lines 19-32), reading log records associated with a first database table in the one or more database tables (col. 4, lines 5-11); applying the log records to the backup copy without modifying the configuration of the tablespace (col. 4, lines 22-29), building new table data pages from the backup copy (col. 14, lines 66-67), scanning the new table data pages for records of the first database table (col. 11, lines 52-66), and updating the first database table from the records (col. 14, lines 12-22). Sockut failed to teach, reading log records associated with a first database table in the one or more database tables, but it would have been obvious to one having ordinary skill in the art at the time the invention was made to read log records associated with a first table in the one or more tables and to modify in Sockut because such a modification would allow the data to be read and updated in the first table before it is copied to the new table/tables and a backup copy is made of the data pages.

With respect to claim 13, Sockut failed to teach, limiting access of the second table to the tablespace to read-only before the first table is updated and the second table depends on the tablespace. Barry teaches, limiting access of the second table to the tablespace to read-only before the first table is updated and the second table depends on the tablespace (col. 5, lines 12-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to limit access of the second table to the tablespace to read-only before the first table is updated and the second table depends on the tablespace and to modify in Sockut because such a modification would allow Sockut to have the capability of retrieving the tablespace but

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not being able to change it prior to the first table being updated. It is well known in the art that a read-only document can be displayed or printed but not altered in any way; read-only memory (ROM) holds programs that cannot be changed.

With respect to claim 14, Sockut failed to teach, providing update access to the second table after the first table is updated. Barry teaches, providing update access to the second table after the first table is updated (col. 4, lines 19-61). It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide update access to the second table after the first table is updated and to modify in Sockut because such a modification would allow the second table to be updated in successive order since the first table is first to receive the update with the second table following which is in chronological order. Relational database management systems usually work with two data tables at the same time, relating the information or data through links established by a common column or field. A tablespace stores one or more tables containing file pages.

With respect to claim 15, Sockut teaches, sorting the log records (col. 12, lines 51-65).

With respect to claim 16, Sockut teaches, deleting the rows (col. 9, lines 64-67). Sockut failed to teach, locking the indices. Barry teaches, locking the indices (col. 7, lines 10-31). It would have been obvious to one having ordinary skill in the art at the time the invention was made to lock the indices and to modify in Sockut because such a modification would eliminate the space needed for the indices and the time needed for accessing the indices.

With respect to claim 17, Sockut teaches, building one or more table data pages from the backup copy having the log records applied (col. 3, line 61-67 and col. 4, lines 1-30); selecting one or more records from the one or more database table data pages,

the one or more records belonging to the first database table (col. 5, lines 56-67 and col. 6, lines 1-34); updating the first database table with the one or more records selected from the one or more table data pages while allowing access to the rest of the one or more database tables in the tablespace (col. 6, lines 35-50); and wherein the first database table can be recovered without having to recover the tablespace entirely (col. 7, lines 13-56).

This independent claim is rejected for the similar rationale given for claim 12.

With respect to claim 18, Socket teaches, allowing at least one or more tables to have update access to the tablespace when the first table is restored (col. 12, lines 18-25).

With respect to claim 19, Socket teaches, deleting all of the rows of the first database table (col. 9, lines 64-67). Sockut fails to teach, locking out access to indices in the first database table. Barry teaches, locking out access to indices in the first database table (col. 7, lines 52-67 and col. 8, lines 1-4). It would have been obvious to one having ordinary skill in the art at the time the invention was made to lock out access to indices in the first database table and to modify in Sockut because such a modification would eliminate the space needed for the indices (index) and the time needed for accessing the indices (index).

With respect to claim 20, Socket teaches, reading the log records from the log record file to a log record workspace (col. 4, lines 5-11), sorting the log records (col. 4, lines 11-17), and applying the log records to the tablespace backup copy (col. 4, lines 22-29 and col. 9, lines 19-22).

Allowable Subject Matter

8. Claims 5 and 6 are allowed.

9. The following is a statement of reasons for the indication of allowable subject matter: Applicant's page row extractor system coupled to the data page scanner system and operable to extract page rows from at least one data page that has been located by the data page scanner system in claim 5 and in claim 6 "a page row extractor system coupled to the data page scanner system and operable to extract the page rows from at least one data page that has been located by the data page scanner system" and "the table row inserter system coupled to the page row extractor system operable to write extracted page rows to the database table", was not disclosed, made obvious or fairly suggested by the prior art of record.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Garth et al (US 5,873,091) disclosed a data structure being formed by loading, reorganizing, or recovering with the data structure comprising tables and/or indices.

Pereira (US 6,122,640) disclosed the reorganizing of an active DBMS table.

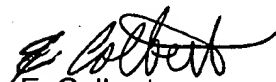
Inquiries

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ella Colbert whose telephone number is 571-272-6741. The examiner can normally be reached on Tuesday-Thursday, 6:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent Millin can be reached on 571-272-6747. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


E. Colbert
Primary Examiner
November 26, 2005